

REMARKS

Initially, the Examiner is respectfully requested to mark the box 12-a)-1 in the Office Action Summary to indicate that the certified copy of the priority document has been received.

In the present Amendment, claims 32-43 have been amended to recite that the fresh Camellia sinesis tea leaf powder comprises β -glucosidase, polyphenol oxidase, and lipooxygenase. Support for the amendment is found, for example, in Example 1, section (3), at pages 17-20 of the specification. In addition, claims 38-43 have been amended to more clearly characterize the present invention. No new matter has been added, and entry of the Amendment is respectfully requested.

Claims 32-47 are pending.

Response to Claim Objection

In paragraph 3 of the Action, claims 38, 39 and 40 are objected to as being a substantial duplicate of claims 41, 42 and 43.

Claims 38-40 have been amended to differentiate from claims 41-43. Withdrawal of the objection to claims 38-40 is requested.

Response to § 103 Rejection of Claims 32-45

In paragraph 7 of the Action, claims 32-45 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto (US 6,416,807) in view of Zameitat *et al.* (US 3,438,785, “Zameitat”) and Lunder *et al.* (US 4,357,361, “Lunder”).

This rejection should be withdrawn because Yamamoto, Zameitat and Lunder do not disclose or render obvious the present invention, either alone or in combination.

The Examiner states that Yamamoto teaches a mixed fine powder for beverage comprising a first ingredient powder “extract” including kale, carrots, broccoli, celery “vegetable” or mandarin orange “fruit” (col. 2, lines 46-58; and col. 5, lines 15-20) and a second ingredient powder, non- and/or semi-fermented tea, Thae sinesis (col. 2, lines 49-50; and col. 4, lines 8-31) including green tea and oolong tea.

The Examiner acknowledges that Yamamoto does not disclose the treatment of the tea powder and combined extracts of vegetable or fruit extract with tea powder as recited in the instant claims.

Zameitat is cited as teaching a soluble tea powder obtained from freshly plucked green tea leaves (col. 7, lines 39-40) in a process with tea leaves and water to obtain a resulting tea extract (col. 7, lines 70-71) and tea aroma (col. 7, lines 25-35).

Lunder is cited as teaching a preparation of soluble tea powder extract with combined ingredients of vegetable materials including hibiscus flower, rosehips, peppermint and orange blossoms with black tea (col. 1, lines 35-41) where the black tea is contacted with the water previously infused with vegetable materials, at 10°C to 40°C for 10 to 40 minutes (col. 1, lines 56-68). Lunder is also cited as teaching a heat treatment after the contact period at a temperature range of at least 80°C and preferably from 90°C to 100°C (col. 2, lines 9-17).

The Examiner concludes that it would have been obvious to use Zameitat’s tea powder and Lunder’s temperature ranges and time period of extracts in Yamamoto’s mixture for a cost effective and improved flavor profile in soluble tea extract. The reason is that Zameitat’s tea powder is cost effective to produce (col. 1, lines 45-60) and improves fresh flavor tea infusion (col. 1, lines 40-44) and that Lunder teaches temperature ranges and time period to achieve a successful contact of tea material and vegetable material in water “slurry” (col. 1, lines 30-33).

Applicants respectfully disagree.

First, Yamamoto teaches that a mixed fine powder for beverage includes a first essential fine powder ingredient of young barley leaves, alfalfa and/or kale and a second essential fine powder ingredient of non- and/or semi- fermented tea. The mixed powder may further include a third additional fine powder ingredient of nutritious food materials such as carrots, broccoli, celery and mandarin orange. See, abstract and col. 2, lines 46-58 of Yamamoto.

The object of Yamamoto is to provide mixed fine powder for beverage containing young barley leaves, alfalfa and/or kale which not only enables efficient ingestion of their rich nutriment but also gives agreeable flavor eliminating bitter taste and offensive smell (col. 2, lines 31-35). Such object is achieved by simply mixing fine powder of young barley leaves, alfalfa and/or kale with fine powder of non- and/or semi-fermented tea as essential ingredients (col. 2, lines 36-40 and Examples).

Accordingly, one skilled in the art would not have been motivated to modify the teaching of Yamamoto in view of the teachings of Zameitat and Lunder, because Yamamoto does not teach any need for special green tea processing as taught by Zameitat or any contact treatment as taught by Lunder.

Second, in the present invention, a Camellia sinensis fresh tea leaf is used as an enzyme source. As recited in the amended claims and as shown at pages 17-20 and in Tables 1-3 of the specification, the presently claimed fresh tea leaf powder contains a significant amount of activity of three enzymes, β -glucosidase, polyphenol oxidase, and lipoxygenase, which are involved in the production of aroma compounds, while the conventional tea powder is measured to contain zero β -glucosidase, polyphenol oxidase, and lipoxygenase activity.

Also, in Yamamoto, green tea is classified as non-fermented tea, which is produced by inactivating oxidase by heating; thus, the above recited enzymes are not included therein.

Third, Yamamoto does not teach any aroma or extract as required in the present claims. Therefore, even if Yamamoto was combined with Zameitat and Lunder, the present invention would not have been achieved (or all and every element of the broadest claim of the instant application is not taught).

Fourth, the present claims recite that the fresh *Camellia sinesis* tea leaf powder is obtained by collecting a fresh leaf and/or a stem of a first harvested tea and/or second harvested tea of a tea plant *Camellia sinesis*, physically damaging the fresh tea leaf, keeping the fresh tea leaf under shade conditions after collecting, allowing the fresh tea leaf to stand for 30 minutes to 72 hours, freeze-drying and subsequently milling the same.

On the other hand, Zameitat's processing of green tea leaves includes plucking fresh green tea leaves, withering at the processing plant, and physically damaging by rolling with Rotovane machines, fermenting approximately for 1 1/4 hours (col. 7, lines 45-62). Further, Zameitat teaches that the green tea leaves are rolled with a rolling additive such as electrostatic black tea or dried green tea leaf (col. 8, lines 59-60).

Since the present claims recite "obtained by collecting ... and ...," rather than reciting "obtained by a process comprising ...," the present claims effectively exclude a step of fermentation.

It is obvious and apparent that the presently claimed process to obtain the fresh *Camellia sinesis* tea leaf powder is different from Zameitat's processing of green tea leaves.

Accordingly, even if Yamamoto was combined with Zameitat and Lunder, the present invention would not have been achieved.

Finally, the Examiner still takes the position that the patentability of a product does not depend on its method of production.

However, as discussed above, Yamamoto's mixed fine powder is different from the presently claimed aroma and extract.

Further, as explained in the Amendment filed December 29, 2009, the structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially where the product can only be defined by the process steps by which the product is made, or where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., *In re Garnero*, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.")

It is obvious and common sense that a fresh tea leaf powder obtained by a process excluding fermentation would have different physical and chemical properties, distinguished from those obtained by fermenting tea leaves. The process steps recited in the claims of the instant application impart distinctive characteristics to the final product, i.e., tea, vegetables, fruit or flowers, as evidenced by the disclosure of the specification.

Specifically, the specification discloses test examples wherein the tea extract, which is treated with the claimed fresh *Camellia sinensis* tea leaf powder, and an un-treated tea extract were tested and analyzed for their aroma intensity and taste (sensory evaluation) as well as analyzed for their aroma compounds, which showed increased amounts of the aroma compounds in the treated tea extracts. Also, by comparing the ratio of key compounds to the whole aroma

compounds, it is indicated that the key compounds amounted to 50 to 70% of the whole aroma compounds in the high-grade tea extracts while the key compounds amounted to about 18% of the whole compounds in the low-grade tea extract, and the key aroma compound ratio is about 70% in each of the samples treated with the fresh tea leaf powders which ratio is comparable to the high-grade tea extracts or higher. See, Table A at pages 33-36; last paragraph at page 36; first paragraph at page 37; and FIGS. 1 and 2 of the specification.

Further, as shown by the Examples of treatment of corn, apple juice, grape juice, orange juice and flower, all the samples being treated according to the present invention exhibited emphasized smell and enriched aroma and taste in comparison with the untreated samples. See, pages 37-41 of the specification.

Therefore, based on the data provided, the chemical compositions of the presently claimed aroma and extract are different from untreated aroma and extract because of the actions of the enzymes contained in the claimed fresh *Camellia sinensis* tea leaf powder; and furthermore, Yamamoto, Zameitat and Lunder, either alone or in combination, do not teach or suggest the presently claimed aromas and extracts.

Accordingly, the present claims are not obvious and are patentable over Yamamoto, Zameitat and Lunder, either alone or in combination.

In view of the above, reconsideration and withdrawal of the §103(a) rejection based on Yamamoto in view of Zameitat and Lunder are respectfully requested.

Response to § 103 Rejection of Claims 46-47

In paragraph 15 of the Action, claims 46 and 47 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamamoto, Zameitat and Lunder, and further in view of McCook *et al.* (US 5,306,486, “McCook”).

This rejection should be withdrawn for at least the same reasons that the § 103(a) rejection based on Yamamoto, Zameitat and Lunder should be withdrawn, as discussed above. McCook is cited as teaching a sunscreen lotion comprising a green tea concentrate powder (col. 2, lines 50-54) and triglyceride esters such as avocado oil and sunflower oil (col. 4, lines 27-28). McCook does not make up for the deficiencies of Yamamoto, Zameitat and Lunder.

Further, the presently claimed subject matter is directed to the production of tea, vegetable, fruit, and flower aromas and extracts, while Yamamoto is directed to making mixed fine powder for beverages, Zameitat and Lunder are directed to making tea and tea extracts, and McCook is directed to sunscreen. In this regard, the Examiner has failed to establish why one of ordinary skill in the art would have combined the cited references in the manner asserted and is employing an impermissible hindsight analysis.

Allowance is respectfully requested. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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